



## **TAPERED END ALUMINIUM PIPE ANCHOR ASSEMBLY**

### **PRODUCT INFORMATION AND INSTALLATION BROCHURE**



### **Introduction**

In our Tapered End Aluminium Pipe Anchor Assembly standard brass anchor is permanently embedded on the head end of 15 inch aluminium pipe and the opposite end is tapered which facilitates driving of pipe into the solid ground more easily. This type of anchors are useful for anchoring in unstable areas such as paver deck, loose bricks, patio stones and landscape areas, that is extensive enough to prevent the installation of certain anchors, Pipe Anchor Assemblies provide a superior installation solution.

### **Highly reliable in handling overload situations**

Our Tapered End Aluminium Pipe Anchor Assemblies have wide stance that give them the strength they need to keep the safety cover and they are often capable of withstanding loads far in excess as the aluminium pipe goes deep into solid ground providing extra holding power and not allowing lifting of paver block or other unstable upper surface in overload situations. Our product is designed and machined to perfection minimizing the risk of dislodgement of assembly, making it reliable in handling overload situations.

### **Long functional life and endurance**

Our Tapered End Aluminium Pipe Anchor Assemblies are made from finest quality solid aluminium and brass providing excellent strength in withstanding lateral forces without deformation or distortion ensuring long functional life and endurance.

## Ease of Use

Tapered End Aluminium Pipe Anchor Assemblies are easy to install and the Brass Anchor Insert can be raised by rotating with the help of an Allen wrench within seconds and can stay recessed with deck surface when not in use.

## Corrosion resistance

Tapered End Aluminium Pipe Anchor Assemblies are made from finest quality non-corrosive aluminium and brass providing corrosion resistance thus suitable for use near water and most other chemicals used in swimming pool maintenance.

## Quality

For manufacturing these products, we bring into process raw materials of high grade and are processed to give a shape in best industrial conditions.

## Packing options

Number of customized packing options are available including vacuum formed plastic trays or individual wrapping.

## Optional



In case of spalling or chipping near drilled hole for receiving Tapered End Pipe Anchor Assembly in Paver deck, this is a great option. Brass Anchor Collar hides the spalled or chipped edges of Paver deck surface near drilled hole and beautifies your deck.

## **IMPORTANT:**

It is very important to determine and mark the exact location of anchor hole for Installation of Tapered End Aluminium Pipe Anchor Assembly, before installation procedure begins. This product brochure gives information only on how to best install Tapered End Aluminium Pipe Anchor Assembly in unstable areas such as paver deck, loose bricks, patio stones and landscape areas. For choice of appropriate anchor device and determining and marking the exact location for installation of this product, please refer to the installation manual that came with your swimming pool safety cover or ask your swimming pool safety cover provider or manufacturer for the same. For additional general guidance on installation of swimming pool safety cover you can download our swimming pool safety cover installation guidance pdf from our download section. Suzy International holds no responsibility for Guarantee or Warranty voidance due to improper installation of your swimming pool safety cover or any other possible reasons that affects your Guarantee or Warranty, and also any other consequences arising during or after installation of your swimming pool safety cover. Information provided here by Suzy International is with sole intention to demonstrate different ways of installation of swimming pool safety cover hardware and Suzy International has nothing to do with Guarantee or Warranty policy of individual companies selling swimming pool safety cover. Please refer to Disclaimer of Suzy International before beginning installation procedure of you swimming pool safety cover.

## **TOOLS REQUIRED FOR INSTALLATION**

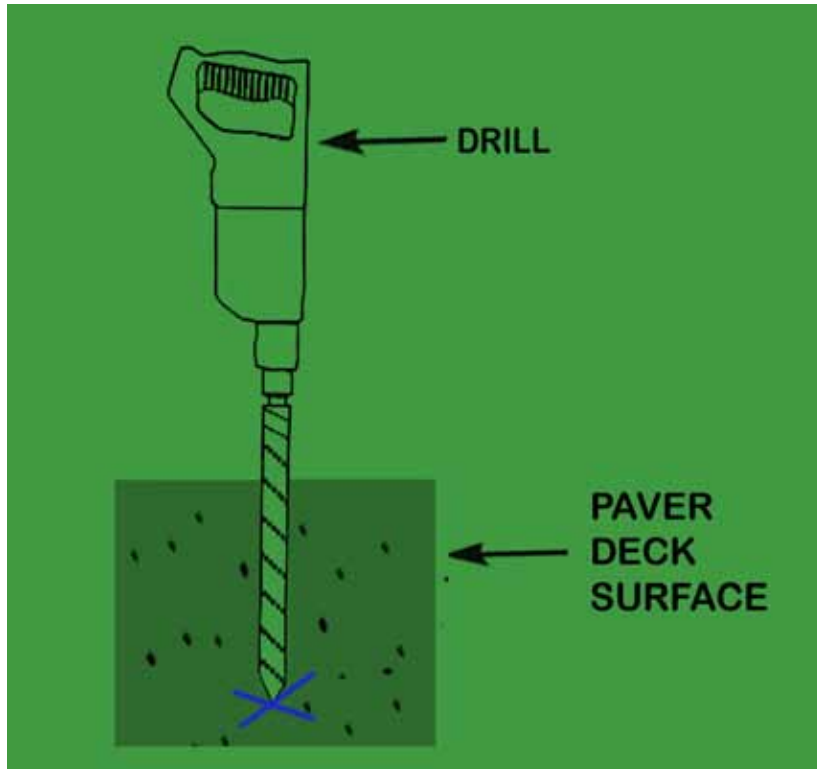
- Heavy Duty Rotary Hammer Drill
- 1" Concrete drill bit with long shaft (carbide / diamond tipped)
- Tape measure
- Hammer & Wooden Block or Rubber Mallet

## **ANCHOR HOLE DRILLING**

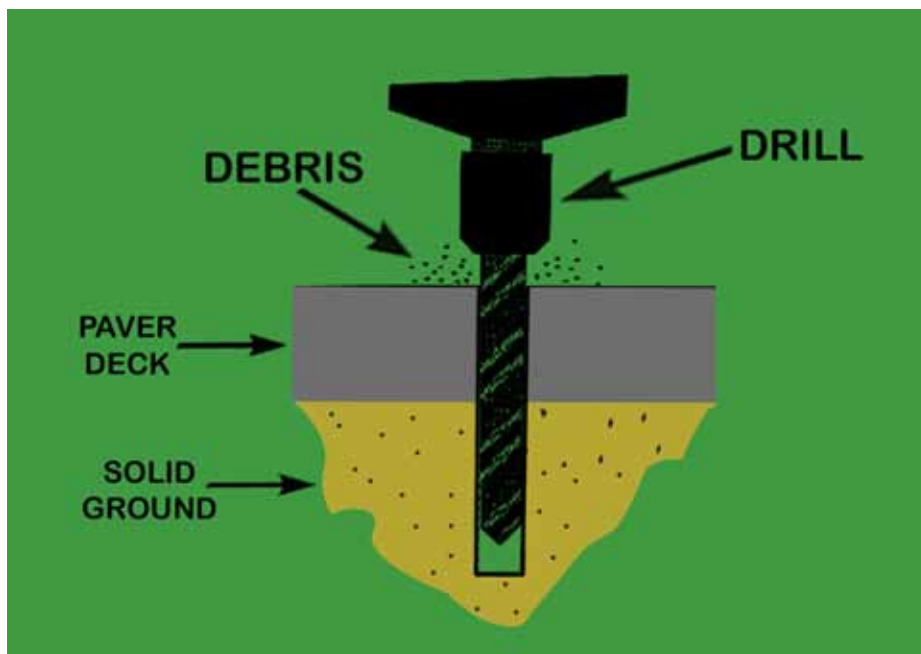
Once you have determined and marked the exact locations of Anchor hole, you can drill holes to accept the Tapered End Aluminium Pipe Anchor Assembly. Measure the drill bit beveled depth. Then add 15" (height of aluminium pipe). Mark this measurement onto your drill bit with electrical tape or use drill guide. Drill the hole into the deck, taking care not to over-ream the diameter of the hole. Whenever possible, drill between pavers or bricks to avoid cracking them. Continue drilling up-to the length of Aluminium Pipe in case concrete is laid under the soil.

## **IMPORTANT:**

Be careful not to rupture any underground piping or wiring lines.

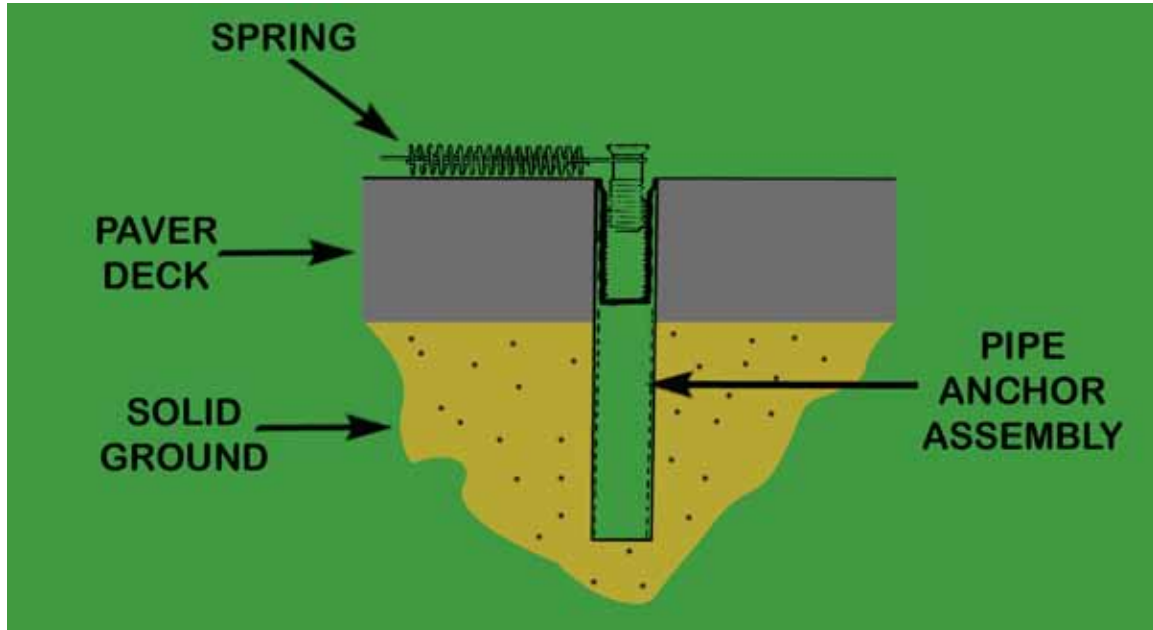


**START DRILLING ON MARKED ANCHOR HOLE POSITION**



**HOLE DRILLED UP TO THE LENGTH OF PIPE**

When your anchor hole is properly prepared, remove the Brass Anchor insert and drive the assembled pipe through hole into ground until flush with the deck surface. Use a rubber mallet or place a block of wood or other material over the end of the pipe before driving to prevent damage to the Aluminium Pipe Anchor Assembly.



**PIPE ANCHOR ASSEMBLY INSTALLED AND  
RECESSED WITH DECK SURFACE**

**Note:** To facilitate smooth operation it is recommended that anchor inserts be removed each spring and fall and shells flushed out of any dirt. The Brass Anchor Insert may also be lightly coated with a Silicone or Teflon spray to ensure smooth operation. Do not use oil or grease.

## GENERAL INFORMATION ABOUT MOST COMMONLY USED MATERIALS BY SUZY INTERNATIONAL FOR MANUFACTURING TAPERED END ALUMINIUM PIPE ANCHOR ASSEMBLY

(Customer ordering large quantities can choose any one material type from below or specify any specific material requirements at the time of ordering)

### ALUMINIUM PIPE:

**Material Types:** 6000 Series Aluminium Alloy  
Type 6063

**Material Group:** Aluminium Pipe

### Aluminium Pipe Description:

Our Aluminium Pipes are manufactured from 6000 Series Aluminium Alloy, Type 6063. Alloys in this group contain Silicon and Magnesium in approximate proportions to form magnesium silicate. This alloy is commonly referred to as an architectural alloy. It is normally used in intricate extrusions. It has a high quality surface finish and high resistance to corrosion on surface exposed to the atmosphere. Type 6063 Aluminium generally do not require any protective or decorative coating; the surface supplied is entirely adequate without further finish. It is also resistant to stress-corrosion cracking and can be easily anodized by an electrolytic passivation process which increases corrosion resistance and wear resistance. Anodizing also prevents galling of components.

### Chemical Composition

Component	Wt %	Component	Wt %	Component	Wt %
Al	Max 97.5	Mg	0.45 - 0.9	Si	0.2 - 0.6
Cr	Max 0.1	Mn	Max 0.1	Ti	Max 0.1
Cu	Max 0.1	Other, each	Max 0.05	Zn	Max 0.1
Fe	Max 0.35	Other, Total	Max 0.15		

### Composition Notes:

Aluminum content reported is calculated as remainder.  
Composition information provided is not for design.

Other impurities do not preclude the possible presence of other unnamed elements. However, analysis shall be regularly made only for the alloying elements listed in the table. The major element that is not analyzed shall be determined by difference between the sum of those elements analyzed and 100 percent. By agreement between the manufacturer and the purchaser, the limits may be established for elements not specified and analysis done.

### Typical Physical Properties

Physical Properties	Metric	English	Comments
Density	2.7g/cc	0.0975 lb/in <sup>3</sup>	AA; Typical

### Typical Mechanical Properties

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	73	73	AA; Typical; 500g load;10mm ball
Hardness, Knoop	96	96	Converted from Brinell Hardness Value
Hardness, Vickers	83	83	Converted from Brinell Hardness Value
Ultimate Tensile Strength	241Mpa	35000psi	AA, Typical
Tensile Yield Strength	214Mpa	31000psi	AA, Typical
Elongation at Break	12 %	12 %	AA, Typical; 1/16in.(1.6mm) Thickness
Modulus of Elasticity	68.9Gpa	10000ksi	AA, Typical;Average of tension and compression. compression moduls is about2 % greater than tensile modulus.
Ultimate Bearing Strength	434Mpa	62900Psi	Edge Distance/pin dia=2.0
Bearing Yield Strength	276Mpa	40000Psi	Edge Distance/pin dia=2.0
Poisson's Ratio	0.33	0.33	
Fatigue Strength	68.9Mpa	10000psi	AA;500,000,000cycles completely reversed stress; RR Moore Machine/Specimen
Machinability	50 %	50 %	0-100 Scale Of Aluminum Alloy
Shear Modulus	25.8Gpa	3740ksi	
Shear Strength	152Mpa	22000psi	AA; Typical

### Material Notes:

Data points with the AA note have been provided by the Aluminum Association, Inc. and are NOT FOR DESIGN.

## STANDARD CONCRETE BRASS ANCHOR:



**Material Types:** Free Cutting Brass  
 Type IS 319 – Grade I  
 Type IS 319 – Grade II

**Material Group:** Extruded Brass Rod

### Brass Rod Description:

Our Standard Concrete Brass Anchors are manufactured from Free Cutting Brass, Type IS 319 – Grade I or Type IS 319 – Grade II. Alloys in this group contain Copper and Zinc in approximate proportion. Extrusion bars of free cutting brass are machined to perfection for manufacturing this product. Extrusion brass bars are less porous and less brittle and provide high modulus of elasticity, high elongation at break and high ultimate tensile strength compared to cast metal brass bars. It has a high quality surface finish and high resistance to corrosion on surface exposed to the atmosphere. Free Cutting Brass Type IS 319 – Grade I or Type IS 319 – Grade II generally do not require any protective or decorative coating; the surface supplied is entirely adequate without further finish. It is also resistant to stress-corrosion cracking and can be easily anodized by an electrolytic passivation process which increases corrosion resistance and wear resistance. Anodizing also prevents galling of components.

### Brass Rod Specification

Material	IS/BUS	UK	US	EUROPEAN	-	INTERNATIONAL
Free Cutting	IS 319/89 Grade I	-	CZ121	C385	CW614 N	CuZn39Pb3
Free Cutting	IS 319/89 Grade II	-	CZ124	C360	CW603 N	CuZn39Pb3



## Composition Notes:

Brass content reported is calculated as remainder.

Composition information provided is not for design.

### Chemical Composition

Constituent	Percentage	
	Grade 1	Grade 2
Copper	56.0 - 59.0	60.0 - 63.0
Lead	2.0 - 3.5	2.5 - 3.7
Iron, Max	0.35	0.35
Total Other Impurities (excluding iron) Max	0.7	0.5
Zinc	Remainder	Remainder

### Notes:

1. If required antimony may be restricted to 0.02 percent in Grade 1 alloy
2. Any nickel or silver present is to be counted as copper.
3. Other impurities do not preclude the possible presence of other unnamed elements. However, analysis shall be regularly made only for the alloying elements listed in the table, plus either copper or zinc. The major elements that is not analysed shall be determined by difference between the sum of those elements analysed 100%. By agreement between the manufacturer and the purchaser, the limits may be established for elements not specified and analysis done.

## MECHANICAL PROPERTIES

### Tensile Properties

Condition	Size		Tensile Strength		Elongation on Gauge Length	
	Over	Upto and including	<i>min</i> , MPa		5.65√A, Percent <i>Min</i>	
			Grade 1	Grade 2	Grade 1	Grade 2
Annealed (O)	6	25	345	325	12	15
	25	50	315	305	17	20
	50	-	285	275	22	25
Half hard (HB)	6	12	405	395	4	7
	12	25	395	385	6	10
	25	50	355	345	12	15
	50	-	325	315	17	20
Hard (HD)	6	12	550	510	-	-
	12	25	490	485	4	-

NOTE 1N/mm<sup>2</sup> = 0.102 Kg/mm<sup>2</sup>=1MPa



<b>Hardness Properties</b>				
Condition	Size		Vickers Hardness(HV)	
	Over mm	Up To And Including mm	Grade 1	Grade 2
Annealed	6	and above	100 max	90 max
	6	12	125-155	120-150
Half Hard	12	25	120-150	115-145
	25	50	110-140	100-130
	50	and above	100-130	90-120
Hard	6	12	160-185	155-185
	12	25	155-180	145-175

**NOTE** For bars and rods above 12mm, hardness should be taken on the cross section midway between surface and center.

**Disclaimer**

some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. All materials specifications are provided for general reference purposes only. Material specification or composition may vary or be subjected to change without prior notice. This information is provided “as is” and Suzy International makes no warranty of any kind with respect to the subject matter or accuracy of the information contained herein. Suzy International specifically disclaims all warranties, expressed, implied or otherwise, including without limitation, all warranties of merchantability and fitness for a particular purpose. In no event shall Suzy International be liable for any special, incidental, indirect or consequential damages of any kind or any damages whatsoever resulting from loss of use, data, profits, whether or not advised of the possibility of damage, and on any theory of liability, arising out of or in connection with the use of the information contained herein. This publication may include technical inaccuracies or typographical errors. Changes may be periodically made to the information herein.

**Custom Tapered End Aluminium Pipe Anchor Assembly Design:**

Tapered End Aluminium Pipe Anchor Assembly design considerations are numerous. Our Engineers can assist you in your design efforts if you just provide a few basic design parameters.

To request for exact dimensions or technical information for this product, please contact: [techinfo@suzyinternational.com](mailto:techinfo@suzyinternational.com)

## **Suzy International provides following additional services to their customers as a routine:**

- Suzy International is a manufacturer and hence apart from our standard products, we can also customized and provide product according to our customer's specification and design.
- We provide customized labeling on product as well as on packaging and we have different packing options with standard size wooden pallet for handling and storage efficiency.
- We have a team of highly qualified engineers and technical staff that provides technical support to our customers in developing new product or designs.
- We have a dedicated team that gives you prompt response regarding any issue arising while the product is in the manufacturing process, or in transit or even after delivery.
- We have varied shipping options in order to cater to the customer's specific transportation needs – from our factory to customer's desired destination.

Suzy International assures complete peace of mind for their customers, by handling virtually all the parameters and aspects – right from customer placing an order to receipt of finished goods at customer's end.

## **OUR PRODUCTS**

### **BRASS ANCHORS**

Standard Concrete Brass Anchor  
Single Knurling Concrete Brass Anchor  
Double Knurling Concrete Brass Anchor  
Single Twist Pop-up Concrete Brass Anchor  
Wood Deck Brass Anchor

### **DRAWBAR COMPRESSION SPRINGS**

Heavy Duty Large Spring  
Heavy Duty Small Spring  
Medium Duty Large Spring  
Medium Duty Small Spring  
Heavy Duty Double Coil Spring  
Medium Duty Double Coil Spring

## **ALUMINIUM GARDEN SPIKE/STAKES**

Aluminium Garden Spike

Standard Aluminium Pipe Anchor Assembly

Tapered End Aluminium Pipe Anchor Assembly

Crimped Head Aluminium Pipe Anchor Assembly

## **MISCELLANEOUS PRODUCTS**

S.S. Buckle

Aluminium Cup

D-Ring

Square Ring

Brass Anchor Collar

Small Spring Cover

Large Spring Cover

Double Coil Spring Cover

Large Wall Anchor Bolt

Small Wall Anchor Bolt

Thunder Bolt

Allen Wrench

Temping Tool Standard

Temping Tool Aluminium

Installation Rod

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